IN THE CLAIMS:

1. (Once Amended) An actuator for moving a driven member, said actuator comprising:

a displacement element for producing a specific displacement;

a drive member connected to one end of said displacement element and which transfers the displacement of said displacement element to a driven member;

a stationary member which supports the other end of the displacement element;

a compression member for pressing said drive member against the driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state; and

a drive circuit for driving said displacement element [such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state].

2. (Once Amended) An actuator as claimed in claim 1, wherein a following relationship is satisfied:

$Nt=X0(1/(1/k2+1/k3)-1/(1/k1+1/k2+1/k3))$

when [the] a spring constant of the compression member is designated k1, [the] a combined spring constant of the displacement element and the drive member is designated k2, [the] a spring constant of the driven member is designated k3, [the] an amount of displacement of the displacement element is designated X0, and [the] a compression force applied by the compression member is designated Nt.

5. (Once Amended) An actuator as claimed in claim 1, wherein said [displace] displacement element is a laminate type piezoelectric element.

6. (Once Amended) An actuator as claimed in claim 5, wherein said [displace] displacement element includes alternating layers of a plurality of piezoelectric thin plates and electrodes.

7. (Once Amended) An actuator for moving a driven member, said actuator comprising:

a first displacement element for producing a first specific displacement;

a second [displace] displacement element for producing a second specific displacement [of which] having a direction which has a predetermined angle to a direction of the first specific direction of said first displacement element;

a drive member connected to one [ends] end of each of said first and second displacement elements and which transfers the displacement of said first and second displacement elements to a driven member;

a stationary member which supports the other [ends] end of each of the first and second displacement elements;

a compression member for pressing said drive member against the driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state; and

a drive circuit for driving said first and second displacement elements [such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state].

8. (Once Amended) An actuator as claimed in claim 7, wherein a following relationship is satisfied:

$Nt=X0(1/(1/k2+1/k3)-1/(1/k1+1/k2+1/k3))$

when [the] a spring constant of the compression member is designated k1, [the] a combined spring constant of the first and second displacement elements and the drive member is designated k2, [the] a spring constant of the driven member is designated k3, [the] an amount of displacement of the first and second displacement elements is designated X0, and [the] a compression force applied by the compression member is designated Nt.

11. (Once Amended) An actuator as claimed in claim 7, wherein each of said first and second [displace] displacement elements is a laminate-type piezoelectric element.

12. (Once Amended) An actuator as claimed in claim 11, wherein each of said first and second [displace] displacement elements includes alternating layers of a plurality of piezoelectric thin plates and electrodes.

Claims 2-6 depend either directly or ultimately from claim 1, whereas claims 10-12 depend either directly or ultimately from claim 7. Therefore, claims 4-7 and 10-12 are not anticipated by the Murata patent.

Accordingly, it is respectfully requested that the rejection of claims 1, 4-7, and 10-12 under 35 U.S.C. § 102(b), as being anticipated by the Murata patent, be reconsidered and withdrawn.

35 U.S.C. § 103(a) Rejections

Claims 2 and 8

The rejection of claims 2 and 8 under 35 U.S.C. § 103(a), as being unpatentable over the Murata patent in view of common knowledge in the art, is respectfully traversed based on the following.

Claim 2 depends from claim 1 and claim 8 depends from claim 7. As shown above, the Murata patent does not disclose or suggest a compression member for pressing a drive member against a driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state, and therefore, the Murata patent does not anticipate claim 1 and claim 7. Thus, dependent claims 2 and 8 are distinguished over the Murata patent.

Similarly, claim 2 and claim 8 are distinguished over what is known to those of ordinary skill in the art. More specifically, common knowledge of ordinary skill in the art also fails to disclose or suggest a compression member for pressing a drive member against a driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state, as required by each of claim 2 and claim 8.

Therefore, the Office Action has failed to demonstrate that the requirements of claims 2 and 8 are rendered obvious by the Murata patent in view of ordinary skill in the art.

Accordingly, it is respectfully requested that the rejection of claims 2 and 8 under 35 U.S.C. § 103(a), as being unpatentable over the Murata patent in view of common knowledge in the art, be reconsidered and withdrawn.

Claims 3 and 9

The rejection of claims 3 and 9 under 35 U.S.C. § 103(a), as being unpatentable over the Murata patent in view of common knowledge in the art as applied to claims 2 and 8, and further in view of the Fujimura patent, is respectfully traversed based on the following.

Claim 3 depends from claim 1, claim 9 depends from claim 7, and as shown above, each of claim 1 and claim 7 is not render obvious by the Murata patent in view of common knowledge in the art. More specifically, the Murata patent in view of ordinary skill in the art does not disclose or suggest a compression member for pressing a drive member against a driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state.

Similarly, the Fujimura patent also fails to disclose or suggest a compression member for pressing a drive member against a driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state. Therefore, claims 3 and 9 are distinguished over any combination of the Murata patent in view of common knowledge in the art and further in view of the Fujimura patent.

Accordingly, it is respectfully requested that the rejection of claims 3 and 9 under 35 U.S.C. § 103(a), as being unpatentable over the Murata patent in view of

common knowledge in the art as applied to claims 2 and 8, and further in view of the Fujimura patent, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Amendment does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood's Deposit Account No. 18-1260.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the

issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood's Deposit Account No. 18-1260. Any refund should be credited to the same account.

Respectfully submitted,

By: _____
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IN THE CLAIMS:

Please replace the previous version of the claims with the following clean version, wherein claims 1, 2, 5-8, 11, and 12 incorporate new amendments thereto.

B14

SUB C1

1. (Once Amended) An actuator for moving a driven member, said actuator comprising:

a displacement element for producing a specific displacement;

a drive member connected to one end of said displacement element and which transfers the displacement of said displacement element to a driven member;

a stationary member which supports the other end of the displacement element;

a compression member for pressing said drive member against the driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state; and

a drive circuit for driving said displacement element.

2. (Once Amended) An actuator as claimed in claim 1, wherein a following relationship is satisfied:

$Nt=X0(1/(1/k2+1/k3)-1/(1/k1+1/k2+1/k3))$

when a spring constant of the compression member is designated k1, a combined spring constant of the displacement element and the drive member is designated k2, a spring constant of the driven member is designated k3, an amount of displacement of the displacement element is designated X0, and a compression force applied by the compression member is designated Nt.

3. An actuator as claimed in claim 2, wherein said drive circuit drives said displacement element at a resonance frequency.

4. An actuator as claimed in claim 1, wherein said drive circuit drives said displacement element at a resonance frequency.

5. (Once Amended) An actuator as claimed in claim 1, wherein said displacement element is a laminate type piezoelectric element.

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Sub C1 cont.

6. (Once Amended) An actuator as claimed in claim 5, wherein said displacement element includes alternating layers of a plurality of piezoelectric thin plates and electrodes.

7. (Once Amended) An actuator for moving a driven member, said actuator comprising:

a first displacement element for producing a first specific displacement;

a second displacement element for producing a second specific displacement having a direction which has a predetermined angle to a direction of the first specific direction of said first displacement element;

a drive member connected to one end of each of said first and second displacement elements and which transfers the displacement of said first and second displacement elements to a driven member;

a stationary member which supports the other end of each of the first and second displacement elements;

a compression member for pressing said drive member against the driven member such that the drive member and the driven member are in a state of intermittent contact under conditions near the condition of transition from the intermittent contact state to a normal contact state; and

a drive circuit for driving said first and second displacement elements.

8. (Once Amended) An actuator as claimed in claim 7, wherein a following relationship is satisfied:

$Nt=X0(1/(1/k2+1/k3)-1/(1/k1+1/k2+1/k3))$

when a spring constant of the compression member is designated k1, a combined spring constant of the first and second displacement elements and the drive member is designated k2, a spring constant of the driven member is designated k3, an amount of displacement of the first and second displacement elements is designated X0, and a compression force applied by the compression member is designated Nt.

9. An actuator as claimed in claim 8, wherein said drive circuit drives said first and second displacement elements at a resonance frequency.

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10. An actuator as claimed in claim 7, wherein said drive circuit drives said first and second displacement elements at a resonance frequency.

11. (Once Amended) An actuator as claimed in claim 7, wherein each of said first and second displacement elements is a laminate-type piezoelectric element.

12. (Once Amended) An actuator as claimed in claim 11, wherein each of said first and second displacement elements includes alternating layers of a plurality of piezoelectric thin plates and electrodes.